

REMARKS

Claims 1-2, 11-12, 19-20 and 22-24 are pending in the application. The applicants acknowledge that the Examiner has indicated that claims 12, 19, 20 and 22-24 are allowable. Applicants have amended claim 11 to include particular temperature-sensitive substrates which may be used with the present invention. Such amendment supported is supported by the specification at least at page 14, lines 1-3. However, the Examiner has re-opened prosecution in the sixth Office Action in this application.

The Examiner has rejected claims 1, 2 and 11 as anticipated under 35 U.S.C. § 102(a) based on European Application No. 0 953 550 (“EP-550”). Those claims are also rejected under § 102(b) based on U.S. Patent No. 5,254,392 of Burns et al. (“Burns”) or U.S. Patent No. 6,068,914 of Boire et al. (“Boire”).

Applicants respectfully traverse these outstanding rejections and the arguments in support thereof for the reasons set forth herein and request reconsideration and withdrawal of the rejections.

102 Rejection Based On EP-550

The Examiner argues that EP-550 teaches low-reflectance glass articles including a high-refractive index film formed thereon. The film is asserted to be one comprising niobium oxide and formed from sol-gel techniques. The refractive index is asserted to be in the range of 1.91 to 2.60. The Examiner points to claim 2 and asserts that the process step is not a structural limit to the article, a point to which the applicants do not agree, however, the Examiner’s basis for rejection of both claims 1 and 2 is moot in view of the following comments. With respect to

claim 11, the Examiner points to the recitation in EP-550 of soda lime glass as a substrate without support or reference to a particular melting temperature for soda lime glass.

This application is not prior art to claims 1 and 2. The publication date of EP-550 is November 3, 1999. The priority date of the present application is November 30, 1998. While the Examiner has indicated that for the purpose of the claimed subject matter the priority date is November 10, 1999 (the application filing date), the Examiner's indication is incorrect. Section 102(a) provides that a "person should be entitled to a patent unless (a) the invention was ... patented or described in a printed publication in this or a foreign country, before the *invention thereof* by the applicant for patent...." (emphasis added). Thus, if the claimed subject matter is described in the priority document sufficient to demonstrate that the applicants had possession of the invention at the time of filing the priority application, then the applicants should be entitled to rely on the priority filing. Such support does not have to be present word for word, but need only be reflected in the disclosure language sufficient to convey to one skilled in the art that the inventor had possession of the invention at the time of filing.

U.S. Patent No. 6,410,173 represents the priority filing (copy enclosed). With regard to claim 1, applicants draw the Examiner's attention to at least to col. 5, lines 9-13, and lines 22-46; col. 6, lines 21-43; col. 7, lines 16-38, col. 7, line 47 to col. 8, line 38; col. 8, line 39 to col. 9, line 5; and col. 10, lines 8-25. While these portions of the priority application discuss use of niobium in combination with zirconium, the present claim 1 is not limited to use of only niobium and is an open-ended "comprising" claim. With respect to claim 2, applicants rely on the above-cited portions of the priority document and further draw the Examiner's attention to col. 9, lines 5-11. Thus, at least these portions of the priority document provide support for reliance on the priority date of November 30, 1998.

With respect to claim 11, the temperature-sensitive substrates listed are different from soda lime glass and are not taught or suggested in EP-550, as such, claim 11 as amended is not anticipated by EP-550.

Based on the foregoing comments, applicants respectfully request withdrawal of the rejection of claims 1, 2 and 11 based on EP-550.

102 Rejection Based on Burns

The Examiner has cited Burns against claims 1, 2 and 11 for its alleged teaching of an anti-iridescence coating including a high refractive index layer that may be comprised of niobium oxide with a refractive index of 2.1 (citing Table A). Burns is further alleged to teach deposition of the layer by sol-gel technique. The Examiner again asserts that the alleged process limitation of claim 2 does not structurally limit the article and that with regard to claim 11, with no mention of a melting temperature, that Burns teaches soda lime glass as a substrate.

Applicants respectfully traverse this rejection. This reference was cited and overcome in the priority application (U.S. Patent No. 6,410,173, hereinafter “the ‘173 patent”).

Burns discloses an anti-iridescence layer designed to eliminate or reduce iridescence, which is defined as “color in reflected light” (col. 1, lines 38-39). The layer, which comprises four zones, alternating between zones of high and low refractive index, is deposited on a substrate prior to deposition of the “optically functional layer” (Burns claim 14). Thus, Burns is not teaching the optical anti-reflection coating using niobium oxide, but a layer designed to cut down on or eliminate iridescence aside other than the optical layer or coating. (col. 4, lines 1-17 – specifically distinguishing the optically functional layer from the iridescent layer of the Burns invention). The iridescence preventing layer can be formed by alternating high and low index zones. However, the invention then provides that a further optical coating is provided on top of

the anti-iridescent layer (col. 4, lines 7-9 and lines 36-44). Despite the vague reference to sol-gel technique as useful for making either the anti-iridescence layer or the optical coating which is to go on top of that layer, it is clear from Burns that gas deposition and vacuum sputtering are all that was used to prepare the anti-iridescence layers (each of which was formed of Tin oxide and silicon dioxide) and the final thick single layer optical coatings of fluorine-doped tin oxide layer (Example 1), zinc oxide (Example 2), tin oxide (Examples 3 - 9). Burns never forms an optical anti-reflection coating using a high index layer of niobium oxide using sol-gel techniques. The mere reference of the potential use of niobium oxide as a substitute for tin oxide in the anti-iridescence layer does not teach or suggest its use in a high index layer in an optical anti-reflection coating.

With regard to claim 2, applicants submit that the structure of a particular layer can, in fact, be characterized by the manner in which it is made if the resulting material is distinct. In the present invention, the use of the low-temperature cured niobium oxide layer as a structural layer in the coating enables the applicants to not only form a unique high index layer for an anti-reflection film, but to use that film on temperature sensitive substrates such as those in claim 11 – plastic substrates. There is nothing in Burns which suggests that low temperature cured niobium oxide layers are formed in an antireflection coating as in claim 2, nor that it could be used on substrates such as those of claim 11. Quite to the contrary, high temperature gas and sputtering techniques are used. As a result, Burns does not teach or suggest claims 1, 2 or 11 and applicants respectfully request withdrawal of the rejection based on Burns.

102 Rejection Based on Boire

The Examiner asserts that Boire anticipates the present invention of claims 1, 2 and 11 under 35 U.S.C. § 102(e) based on an alleged teaching of an anti-reflection coating including a

high index layer that may comprises niobium oxide. The layer is alleged to have a refractive index of 1.90 to 2.60. The Examiner further asserts that the layer may be deposited by sol-gel, referring to col. 2, lines 50-59 and col. 3, lines 20-25.

The Examiner has misread Boire's teaching. Boire teaches a special coating using pyrolyzed layers which it refers to as an "A" coating. It may be a glazing on a glass substrate (col. 2, lines 4-62). The Examiner points to col. 4, lines 10-13 for a "high" index layer. However, this portion of col. 4 is used in describing those layers which are used in what Boire teaches as "B" type coatings which are intended as optional coatings for the *back* of a substrate having a glazing of his invention (the "A" coatings). It is with respect to the "B" coatings that Boire mentions use of niobium oxide (as well as tantalum oxide, titanium oxide, zirconium oxide, tin oxide, zinc oxide and tungsten oxide) as materials which may be vacuum deposited in a "B" type coating (see col. 3, lines 25-30 and lines 52-64). In fact, Boire, like Burns, suggests that such "B" coatings are intended for high temperature applications and tempering and the like. Thus, col. 4, lines 10-13 does not teach sol-gel applicable high index coatings having niobium oxide for optical coatings. The Examiner's citation to col. 2, lines 50-59 and col. 3, lines 20-25 is similarly confused. Those references, unlike the prior citation, apply to the *other* layer, the inventive "A" layer. In the "A" layer, the high-index layers which may be pyrolyzed are described as titanium dioxide, tin oxide, zinc oxide, zirconium oxide and tantalum oxide (col. 4, lines 40-63 – describing the low and high index layers for "A" coatings). These materials are specifically selected because they are capable of being pyrolyzed according to the invention and niobium oxide is not suggested for the "A" high index layers.

Since neither coating is a sol-gel applied coating comprising niobium oxide as a high index layer for an antireflection film, claim 1 is not anticipated by Boire. Further, claim 2,

which is a low-temperature applied layer, is also not taught by Boire. Finally, none of the substrates of claim 11 are taught or suggested by Boire.

Based on the foregoing, applicants submit that the invention is fully in condition for allowance and the invention as claimed in claims 1, 2 and 11 is distinguished from the cited prior art such that the pending rejections should be withdrawn.

In view of the protracted, piecemeal examination of this application, applicants respectfully request an expedited notice of allowance.

Respectfully submitted,

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Enclosures [U.S. Patent No. 6,410,173]